Center Innovation Fund: AFRC CIF

Artificial Intelligence (AI) Flight Advisor

Completed Technology Project (2014 - 2015)

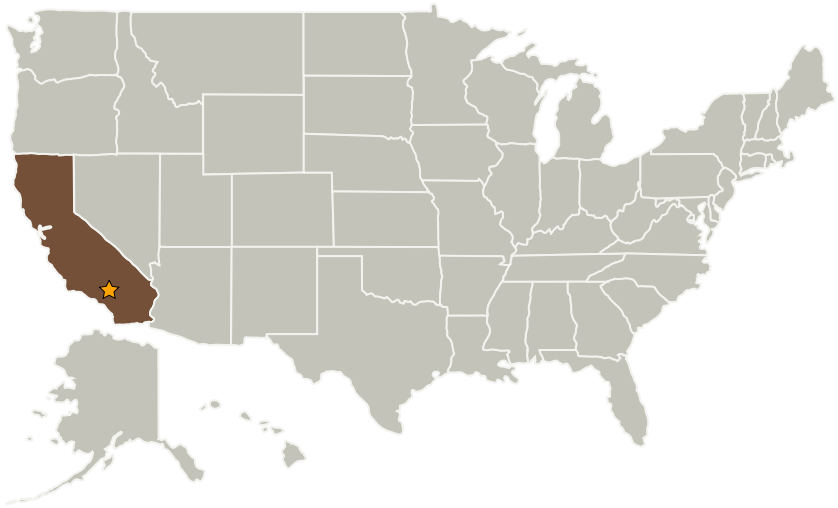
Project Introduction

This research effort applies Deep Learning to contingency management. Many historic aircraft accidents would have been avoidable if the pilot had better diagnosis of the aircraft fault state and knowledge of the best corrective actions. This research effort is working toward developing the capability to diagnose the fault state and provide the best corrective action. In addition, as autonomous systems become more widely used, a system such as this will be needed to provide direction to the autonomous system as it encounters new and unexpected circumstances.

Anticipated Benefits

This technology has the potential to provide contingency management advisory systems for crewed or autonomous vehicles. These systems could aid pilots during emergencies and potentially help avoid loss of equipment or ensure safety of pilots as well as personnel on the ground.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Armstrong Flight Research Center(AFRC)	Lead Organization	NASA Center	Edwards, California

NASA G-III/C-20A Research Testbed may be the first conceptual implementation of an AI Flight Advisor

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Primary U.S. Work Locations
California

Images

NASA G-III/C-20A Research Testbed
NASA G-III/C-20A Research Testbed may be the first conceptual implementation of an AI Flight Advisor
(https://techport.nasa.gov/image/16622)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Armstrong Flight Research Center (AFRC)

Responsible Program:

Center Innovation Fund: AFRC CIF

Project Management

Program Director:

Michael R Lapointe

Program Manager:

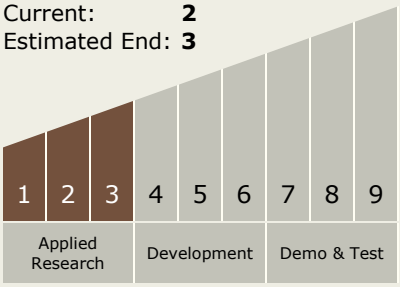
David F Voracek

Principal Investigator:

John J Ryan

Technology Maturity (TRL)

Start: **1**
Current: **2**
Estimated End: **3**



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Technology Areas

Primary:

- TX16 Air Traffic Management and Range Tracking Systems
  - TX16.1 Safe All Vehicle Access